

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

OBSERVATIONS ON THE BUTTERFLIES OF APPLE
ORCHARD MOUNTAIN, BEDFORD COUNTY,
VIRGINIA.

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In furtherance of our plan of making a detailed survey of the butterflies of Virginia, Mrs. Clark and I spent the week of July 22-28, 1934, on Apple Orchard Mountain in Bedford County, where we made a preliminary study of the local species.

In North Carolina, South Carolina and Georgia much has been done in surveying the interesting butterfly fauna of the higher mountain regions, but the mountains of Virginia have received little attention and there are extraordinarily few published records. Quite a number of species are known from Pennsylvania or Maryland and again from North Carolina or even further south that as yet have not been recorded from Virginia.

Although most of the butterflies included in the present list are wide-ranging species, some of them are of much interest, and one has not, so far as we are aware, heretofore been definitely recorded from the state.

Apple Orchard Mountain rises to a height of about 4,280 feet above sea level, and the camp at which we stayed is situated near its summit at an altitude of from 3,600 to 4,000 feet.

By far the most abundant butterflies were *Papilio philenor* and *Epargyreus tityrus*, both of which occurred in almost incredible abundance about the milkweed flowers. They were also the butterflies most frequently seen in the woods. *Danaïs plexippus* was very common, but about the milkweed flowers *Papilio philenor* outnumbered it about eight to one, and *Epargyreus tityrus* was even more numerous. With these on the milkweed flowers there were, in order of decreasing abundance, *Papilio glaucus*, *P. troilus*, *P. polyxenes*, *Argynnis cybele*, and *A. aphrodite*. But all of these together were fewer in numbers than *Danaïs plexippus*.

Papilio philenor began to fly, in small numbers and in indolent fashion, before sunrise, and a few were on the wing until nearly dark, sharing the milkweed flowers with numerous sphingids. *Epargyreus tityrus* was on the wing nearly, though not quite, as long.

The butterflies of the open fields were surprisingly few, and even *Phyciodes tharos* and *Everes comyntas*, though common, were far from abundant. The very small number of skippers of the subfamily Hesperiniæ is noteworthy.

Interesting features of this region are the unusual abundance of moths of the genus *Catocala* throughout the forests, and at dusk of several different species of sphingids coursing about the open places and hovering before the evening primrose and milkweed blossoms.

Specimens of all the butterflies included in the following list were captured and brought home for examination with the single exception of *Neonympha eurytus* of which only two were seen, one, however, at very close range.

FAMILY NYMPHALIDÆ: Subfamily Satyrinæ: *Enodia portlandia*; three of these butterflies were seen within a distance of 40 or 50 feet along the Mons trail on the southeastern side of Rich Mountain, and one on the road about half a mile below the camp. *Neonympha eurytus*; two were seen along the trail to Greenlee on the west side of Apple Orchard Mountain, July 26. *Cercyonis alope*; frequent on brushy slopes.

Subfamily Nymphalinæ: *Basilarchia arthemis astyanax*; not very common, but seen occasionally along the roads, and also along the more open portions of the trail near the summit of Apple Orchard Mountain. *Pyrameis atalanta*; occasional in the more open portions of the trails, and in open places near the woods. *P. virginienensis*; occasional on milkweed. *P. cardui*; one freshly emerged female taken on milkweed in a bushy pasture on Big Onion Mountain, July 25. *Vanessa antiopa*; near the summit of Apple Orchard Mountain, July 22. *Polygonia interrogationis*; one taken along the road about half a mile below the camp, July 26. *P. comma*; a male and a female taken July 23; not common. *P. progne*; common along the roads and the more open portions of the trails. *Phyciodes nycteis*; three taken, July 22, 23, and 27, the first in the woods within a mile from the summit of Apple Orchard Mountain, the others in fields on the mountain side. *P. tharos*; common, though not abundant, in all open places. *Argynnis diana*; four males were met with at widely separated points, two on Apple Orchard Mountain not far above the camp, July 22; one on the east side of Rich Mountain on the Mons trail, July 23; and one about three miles further along the trail to Mons, July 27; all were in or near the woods. *A. cybele*; common on milkweed in all open places, and occasional in the woods; nearly all the individuals were much worn. *A. aphrodite*; common on milkweed in all open places; most of the individuals were much worn, but some of the females were freshly emerged. *Euptoieta claudia*; one met with in the open field on the saddle between Apple Orchard and Big Onion mountains.

Subfamily Danainæ: *Danaus plexippus*; abundant in all open places, and occasional throughout the woods; mated pairs were very common in the fields; eggs and young and full grown caterpillars were found.

Family LYCÆNIDÆ: Subfamily Lycæninæ: *Chrysophanus phlæas hypophlæas*; common in all open fields. *Everes comyntas*; common in open

fields. *Lycænopsis argiolus pseudargiolus*; the commonest butterfly in the woods; seen everywhere along the roads and trails, and about the borders of the woods.

Subfamily Theclinae: *Strymon melinus*; three seen, one in an open field, July 24, and two along trails in the woods, July 25, and 27. *S. cecrops*; two taken in a brushy pasture on the side of Big Onion Mountain, July 25.

Family PAPILIONIDÆ: Subfamily Pierinae: *Eurema lisa*; frequent at the foot of Apple Orchard Mountain, July 28. *Eurymus eurhytheme*; common in all open fields; all seen were more or less deep orange, except for white females. *E. philodice*; one or two seen every day in the fields; by no means so common as the preceding. *Pieris rapæ*; occasional at the foot of Apple Orchard Mountain, July 28.

Subfamily Papilioninae: *Papilio philenor*; exceedingly abundant in all open places, and frequent throughout the woods. *P. glaucus*; common in all open places, and occasional in the woods; most of the females were black, but a few yellow ones were seen. *P. troilus*; common in all open places, and occasional in the woods. *P. polyxenes*; common in all open places. *P. marcellus*; one taken on Apple Orchard Mountain about a mile from the summit, on milkweed, July 28.

Family HESPERIIDÆ: Subfamily Pyrginae: *Epargyreus tityrus*; exceedingly abundant in all open places and common in the woods; the caterpillars were found on *Robinia pseudacacia*, and in the woods on *Falcata comosa*. *Achalarus lyciades*; occasional on brushy mountain sides. *Thanaos icelus*; a very battered individual taken in an open field, July 22. *T. persius*; occasional in open fields. *T. lucilius*; occasional in open fields and on brushy mountain sides. *T. martialis*; one female on the trail to Mons on the east side of Rich Mountain, July 27. *T. juvenalis*; frequent in open fields. *T. horatius*; frequent in open fields.

Subfamily Hesperinae: *Atalopedes campestris*; frequent in open fields. *Atrytone ruricola*; frequent in the more open places in the woods, and along the borders of the woods. *Amblyscirtes vialis*; occasional along the borders of the woods and along the roads.

NOTES.—*Argynnis diana*: the flight of this species resembles that of *A. cybele* but is higher, stronger, and faster, though with somewhat slower wing beats. It suns itself on a leaf with the wings outspread like *A. cybele* and, like that species, feeds commonly with the wings fully extended. It is more shy than *A. cybele*, and keeps more to the woods. The first one seen dashed at two *Papilio philenor* that were fluttering about together about three feet above some milkweeds. I have never noticed aggressiveness of this sort on the part of *A. cybele*. The odor of this butterfly is unusually strong and resembles that of wild roses, though it is slightly more spicy. It is sweeter and less spicy than that of *A. cybele*.

Enodia portlandia: The flight is strong, rapid, and very irregular, quite without the skipping characteristic of our other satyrids. The butterfly dodges about low down in the bushes, frequently perching head down on a tree trunk or rock, or on the under side of a twig or upper side of a leaf. It is shy and quick, and in its actions is more like a vanessid than it is like our other satyrids.